
LD 48: Link Diagnostic

The Link Diagnostic program is used to maintain data links used with various special features and auxiliary data links. A maintenance telephone cannot use LD 48.

Automatic Call Distribution Links

When equipped with the Automatic Call Distribution (ACD) feature, the Meridian 1/Meridian SL-1 is supplemented with an Auxiliary Data Store (ADS) minicomputer system. The auxiliary data processor is located external to the Meridian 1/Meridian SL-1 and is connected via a high-speed link and a low-speed link.

The high-speed link is used for transmission of ACD-related messages between the Meridian 1/Meridian SL-1 and the auxiliary processor; the low-speed link is used for transmission of maintenance/error messages between the maintenance TTY (connected to the Meridian 1/Meridian SL-1) and the auxiliary processor.

Note: When enabling a high-speed link (using the command “ENL HSL” or “ENL SDI HIGH” in LD 48), the craftsperson must log out of the TTY to receive a message from the switch which confirms that the high-speed link (HSL) has been enabled.

Each Auxiliary Processor Link (APL) consists of a single Serial Data Interface (SDI) port connected via an interface cable to an interface port on the auxiliary processor.

ACD High speed and low speed link monitor

The ACD monitor diagnoses messages which flow across the link. This tool is useful to someone experienced with message formats and protocols.

APL monitor

The APL monitor is a tool used to diagnose the messages flowing across the link. This is only useful for someone experienced with the message formats and protocols.

Integrated Messaging System Links

The link maintenance capabilities provided for Integrated Messaging System (IMS) and Integrated Voice Messaging System (IVMS) links allow the link to be disabled/enabled and put into the maintenance mode.

The link software/hardware status can also be displayed. The program allows the craftsman to request that the printouts of all packed and/or unpacked messages be sent over a specified APL link.

Using print options (packed/unpacked messages) and observing the patterns of messages sent over the link, the most probable fault location (AUX, Meridian 1/Meridian SL-1 or SDI cable) can be determined.

Command and Status Links (CSL)

The Command and Status Link is an application protocol used for communication between the Meridian 1/Meridian SL-1 CPU and an external Value Added Server such as the Meridian Mail MP. The CSL runs on an Enhanced Serial Data Interface (ESDI) card.

In addition to the tests in LD 48, resident firmware diagnostics for the CSLs and ESDIs can output CSA, ESDA, ESDI error messages.

Multi-purpose Serial Data Link (MSDL)

MSDL provides 4 ports for applications such as ISDN Primary Rate D-channels (DCH) and Application Module Links (AML). With X11 Release 19 and later, the MSDL card supports SDI functions.

The MSDL commands are listed below, where x is the MSDL device number (defined by prompt DNUM in LD 17). These are provided in Link Diagnostic (LD 48) and D-channel Maintenance (LD 96), and I/O Diagnostic (LD 37).

DIS MSDL x (ALL) — Disable MSDL card
 ENL MSDL x (FDL, ALL) — Enable MSDL card
 RST MSDL x — Reset MSDL card
 STAT MSDL (x (FULL)) — Get MSDL status
 SLFT MSDL x — Execute a self-test on MSDL card x

These are provided in Link Diagnostic (LD 48) and D-channel Maintenance (LD 96), and I/O Diagnostic (LD 37) Overlays.

Application Module Link (AML)

An Application Module Link (AML) provides a connection to applications such as Meridian Link. The AML is configured on an Enhanced Serial Data Interface (ESDI) or Multipurpose Serial Data Link (MSDL) card.

In X11 Release 18 and later, CMS and ESDI commands are replaced by the following AML commands:

Old command	New command
ENL ESDI x	ENL AML x LYR2
DIS ESDI x	DIS AML x LYR2
ENL CMS x	ENL AML x LYR7
DIS CMS x	DIS AML x LYR7
CON ESDI x	EST AML x
DSC ESDI x	RLS AML x
ACMS x	AML x ACMS
SLFT ESDI x	SLFT AML x
STAT CMS (x)	STAT AML x
STAT ESDI (x)	STAT AML x
SWCH CMS x	SWCH AML x y

AML/CSL monitor

The AML monitor is a tool used to diagnose the messages flowing across the link. This is only useful for someone experienced with the message formats and protocols.

ISDN BRI monitor

This capability is used to monitor input/output messages to the MISP and SILC/UILC. This is only useful for someone experienced with the message formats and protocols. A password is required for DGB and MON options. The SETM TNx, RSET TNx and RSET ALL commands are also available for digital telephones.

Caution: Use of the SETM MISP loop MON commands may use all system printing registers and cause an initialization.

Single Terminal Access (STA)

Single Terminal Access (STA) is an application available on the MSDL card with X11 Release 19 and later. The STA application reduces the number of physical devices used to administer and maintain the Meridian 1 and its auxiliary processors.

Voice Mailbox Administration (VMBA)

Voice Mailbox Administration (VMBA) is available with X11 Release 19 and Meridian Mail 9. It allows for Integrated Voice Mailbox Administration.

Basic commands

Table of contents

Section	Page
Basic commands	258
ACD High speed and low speed link commands	262
ACD High speed and low speed link monitor commands	262
AML commands	263
AML over Ethernet (ELAN) commands	263
AML/CSL monitor commands	264
Auxiliary Processor Link (APL) commands	266
APL monitor commands	266
CSL commands (X11 Release 17 and earlier)	267
Intercept Computer Update (ICU) commands	268
ISDN BRI monitor commands	269
Multipurpose Serial Data Link (MSDL) commands	270
Single Terminal Access (STA) commands	270
Voice Mailbox Administration (VMBA) commands	271

Basic commands

ACMS x	Automatic set-up for Command and Status link x
CMIN ALL	Clear minor alarm indication on all attendant consoles
CMIN c	Clear minor alarm indication on attendant consoles for customer c
CON ESDI x	Set up link layer of HDLC protocol
DIS AML x	Disable AML x
DIS AML x AUTO	Disable AUTO recovery on AML x (MSDL only)
DIS AML x LYR2	Disable layer two on AML x
DIS AML x LYR7	Disable layer seven on AML x
DIS AML x MDL	Disable MDL error reporting on AML x (MSDL only)
DIS AML x MON	Disable monitor on AML x (MSDL only)
DIS APL x	Put software AUX link x in maintenance mode
DIS CMS x	Disable Command and Status link x
DIS ESDI x	Disable ESDI x
DIS HSL	Disable the high-speed link
DIS ICP x	Put ICP link x into maintenance mode
DIS ISDI x	Disable hardware AUX link SDI x
DIS MON	Disable the monitor-bit of high-speed link data
DIS MSDL x (ALL)	Disable MSDL device x
DIS MSGI x	Disable the MSGI option
DIS MSGO x	Disable the MSGO option
DIS PACI x	Disable the PACI option
DIS PACO x	Disable the PACO option
DIS PPRT x	Disable packet message print option on link x
DIS PRNT	Disable the print-bit of high-speed link data
DIS SDI HIGH	Disable the SDI port for high-speed link
DIS SDI LOW	Disable the SDI port for low-speed link
DIS STA x	Disable the STA application.
DIS UPRT x	Disable unpack message print on AUX link x
DSC ESDI x	Disconnect the link
DSIC LSTI x	Disable printing of lost input messages on link x
DSIC LSTO x	Disable printing of lost output messages on link x
DSIC MSGI x	Disable printing of input messages on link x at input queue level
DSIC MSGO x	Disable printing of output messages on link x at output queue level
DSIC PACI x	Disable printing of input messages on link x at input buffer level
DSIC PACO x	Disable printing of output messages on link x at output buffer level

ENIC LSTI x	Enable printing of lost input messages on link x
ENIC LSTO x	Enable printing of lost output messages on link x
ENIC MSGI x	Enable printing of messages on link x at input queue level
ENIC MSGO x	Enable printing of messages on link x at output queue level
ENIC PACI x	Enable printing of input messages on link x at input buffer level
ENIC PACO x	Enable printing of output messages on link x at output buffer level
ENL AML x	Enable AML x
ENL AML x ACMS	Enable automatic set-up on AML x (ESDI only)
ENL AML x AUTO	Enable AUTO recovery on AML x (MSDL only)
ENL AML x FDL	Force download loadware to the MSDL card and enable AML x
ENL AML x LYR2	Enable layer two on AML x
ENL AML x LYR7	Enable layer seven on AML x
ENL AML x MDL	Enable MDL error reporting on AML x (MSDL only)
ENL AML x MON	Enable monitor on AML x (MSDL only)
EST AML x	Establish layer two on AML x
ENL APL x	Put software AUX link x in non-maintenance mode
ENL CMS x	Enable CSL x
ENL ESDI x	Enable ESDI x
ENL HSL	Enable the high-speed link
ENL ICP x	Enable ICP link x
ENL ISDI x	Enable AUX link SDI x
ENL MON	Print software information at maintenance TTY
ENL MSDL x (ALL, FDL)	Enable MSDL device x
ENL MSGI x	Print incoming messages from link x
ENL MSGO x	Print outgoing messages from link x
ENL PACI x	Print incoming messages from link x
ENL PACO x	Print outgoing messages from link x
ENL PPRT x	Enable packet message print option on link x
ENL PRNT	Connect high-speed link to TTY
ENL SDI HIGH	Enable SDI port for high-speed link
ENL SDI LOW	Enable SDI port for low-speed link
ENL UPRT x	Enable unpacked message print on link x
ENLX MSGI x p	Output incoming priority p messages from link x
ENLX MSGO x p	Output outgoing priority p messages from link x
ENL STA x (FDL)	Enable STA application. The MSDL card must be enabled to implement this command.
ICP ADD xxxx	Set up additional information xxxx to be used in the ICP message

ICP CLR	Clear previous ICP message set up without sending it
ICP DN xxxx	Set up ICP DN xxxx to be used in the ICP message
ICP IPN xx	Set up IPN number xx to be used in the ICP message
ICP LINK x	Set up ICP link x to be used in the ICP message
ICP RSN x	Set up the intercept transfer reason x to be used in the ICP message
ICP SEND xx yy	Send the defined ICP message number xx, yy times
ICPM	Access ICP maintenance commands
MAP AML (x)	Get physical address and card name of one or all AMLs
MAP STA x	Get information relating to the STA application.
PSWD	Enter password to use ICP maintenance commands
RLS AML x	Release layer two on AML x
RSET ALL	Stop printing all messages on a line card
RSET BRIM	Stop printing of messages on SILC/UILC, MISP or digital line card
RSET IFx 1 PDL2 1	Stop printing SAPI 16 interface messages.
RSET IFx 1 PDNI n	Stop printing network interface messages.
RSET IFx l s c u BCH x	Stop printing B-channel terminal interface messages.
RSET IFx l s c u DCHx	Stop printing D-channel terminal interface messages.
RESET IMSG l s c dsl	Disable monitoring on incoming
RSET MISP loop AMO	Stop MISP printing of audit messages on MISP card
RSET MISP loop DGB	Exit MISP debug
RSET MISP loop MNT	Stop MISP printing of status messages on MISP card
RSET MISP loop MON	Stop printing of input/output messages on MISP card
RSET MPHm	Stop all Meridian Packet Handler message monitoring.
RSET OMSG l s c dsl	Disable monitoring on outgoing
RSET TNx	Stop printing messages on an ISDN BRI line card
RST MSDL x	Reset MSDL device x
SET IMSG l s c dsl MON x	Set monitor on incoming msg
SET OMSG l s c dsl MON x	Set monitor on outgoing msg
SETM BRIM xxxx	Set printing of messages on SILC/UILC, MISP or digital line card
SETM IFx 1 PDL2 1	Set printing of SAPI 16 interface messages
SETM IFx 1 PDNI n	Set printing of network interface messages.
SETM IFx l s c u BCHx	Set printing of B-channel terminal interface messages.
SETM IFx l s c u DCHx	Set printing of D-channel terminal interface messages.
SETM MISP loop AMO	Set printing of audit messages on MISP card
SETM MISP loop DGB	Set debug option on MISP card
SETM MISP loop MNT	Set printing of status messages on MISP card
SETM MISP loop MON	Set printing of input/output messages on MISP card

SETM MPHx xxxx	Set printing of Meridian Packet Handler messages. Where: xxxx = the MPHs to be monitored
SETM TNx l s c u, 31	Set printing messages on a digital line card unit (u) or ISDN BRI line card (31)
SETM TNx l s c u, dsl	Set printing messages on a unit
SLFT AML x	Invoke self-test for AML x
SLFT ESDI x	Invoke ESDI and run self-test
SLFT MSDL x	Invoke self-test for MSDL device x
STAT AML (x)	Get AML status
STAT APL x	Display status of AUX link x
STAT CMS x	Get status of Command and Status link x
STAT CNFG	Get status of link monitor/simulator configuration
STAT CSDI x	Get status of SDI port x
STAT DSP LNK x	Get status of all Displays on link x
STAT ESDI x	Get status of ESDI x
STAT HSL	Get high-speed link status
STAT ICP (x)	Display software status of one or all ICP links
STAT ISDI x	Get status of hardware AUX link SDI x
STAT LSL	Get low-speed link status
STAT MON (x)	Get status of one or all message monitors
STAT MSDL (x [FULL])	Get MSDL status
STAT SDI HIGH	Get status of high-speed link port
STAT SDI LOW	Get status of low-speed link port
STAT STA x	Get status of STA application.
SWCH AML x y	Switch active (x) and standby (y) AML
SWCH CMS x y	Switch active (x) and standby (y) CSL
UPLD AML x TBL x	Upload parameter Table 1 to 4 from AML x (MSDL only)

ACD High speed and low speed link commands

The following commands are used to enable, disable, test and check the status of an APL link.

Note: When enabling a high-speed link (using the command “ENL HSL” or “ENL SDI HIGH” in LD 48), the craftsperson must log out of the TTY to receive a message from the switch which confirms that the high-speed link (HSL) has been enabled.

DIS HSL	Disable the high-speed link
DIS SDI HIGH	Disable the SDI port for high-speed link
DIS SDI LOW	Disable the SDI port for low-speed link
ENL HSL	Enable the high-speed link
ENL SDI HIGH	Enable SDI port for high-speed link
ENL SDI LOW	Enable SDI port for low-speed link
STAT HSL	Get high-speed link status
STAT LSL	Get low-speed link status
STAT SDI HIGH	Get status of high-speed link port
STAT SDI LOW	Get status of low-speed link port

ACD High speed and low speed link monitor commands

The monitor is a tool used to diagnose the messages flowing across the link. This is only useful for someone experienced with the message formats and protocols.

DIS MON	Disable the monitor-bit of high-speed link data
DIS PRNT	Disable the print-bit of high-speed link data
ENL MON	Print software information at maintenance TTY
ENL PRNT	Connect high-speed link to TTY
STAT MON (x)	Get status of one or all message monitors

AML commands

The AML commands are listed below, where **x** is the AML logical device number (defined by prompt ADAN in LD 17). Some of these commands only apply to AMLs on an MSDL card.

DIS AML x	Disable AML x
DIS AML x AUTO	Disable AUTO recovery on AML x (MSDL only)
DIS AML x LYR2	Disable layer two on AML x
DIS AML x LYR7	Disable layer seven on AML x
DIS AML x MDL	Disable MDL error reporting on AML x (MSDL only)
DIS AML x MON	Disable monitor on AML x (MSDL only)
ENL AML x	Enable AML x
ENL AML x ACMS	Enable automatic set-up on AML x (ESDI only)
ENL AML x AUTO	Enable AUTO recovery on AML x (MSDL only)
ENL AML x FDL	Force download loadware to the MSDL card and enable AML x
ENL AML x LYR2	Enable layer two on AML x
ENL AML x LYR7	Enable layer seven on AML x
ENL AML x MDL	Enable MDL error reporting on AML x (MSDL only)
ENL AML x MON	Enable monitor on AML x (MSDL only)
EST AML x	Establish layer two on AML x
MAP AML (x)	Get physical address and card name of one or all AMLs
RLS AML x	Release layer two on AML x
SLFT AML x	Invoke self-test for AML x
STAT AML (x)	Get AML status
SWCH AML x y	Switch active (x) and standby (y) AML
UPLD AML x TBL x	Upload parameter table 1 to 4 from AML x (MSDL only)

AML over Ethernet (ELAN) commands

DIS ELAN	Disable ELAN (server task)
DIS ELAN x	Disable ELAN link number x (client task)
ENL ELAN	Enable ELAN (server task)
STAT ELAN	Check status of all configured ELANs
STAT ELAN x	Check status of ELAN x

AML/CSL monitor commands

The AML monitor is a tool used to diagnose the messages flowing across the link. This is only useful for someone experienced with the message formats and protocols. These commands apply to CSLs or AMLs on ESDI cards and AMLs on MSDL cards.

DIS MSGI x	Disable output of incoming layer seven messages on AML x
DIS MSGO x	Disable output of outgoing layer seven messages on AML x
DIS PACI x	Disable output of incoming layer two messages on AML x
DIS PACO x	Disable output of outgoing layer two messages on AML x
DISM MSGI <link#><msg1><msg2>...	Disable message input/output monitoring excluding those specified incoming messages
DISM MSGO <link#><msg1><msg2>...	Disable message input/output monitoring excluding those specified outgoing messages
DSIM MSGI <link#>	Disable inclusive incoming message monitoring
DSIM MSGO <link#>	Disable inclusive outgoing message monitoring
DSIP MSGI <link#><pri><pri>...	Disable monitoring of inclusive priorities on incoming messages
DSIP MSGO <link#><pri><pri>...	Disable monitoring of inclusive priorities on outgoing messages
DSIT MSGI <link#><l><s><c><u>	Disable inclusive TN incoming message monitoring
DSIT MSGO <link#><l><s><c><u>	Disable inclusive TN outgoing message monitoring
DSXP MSGI <link#><pri><pri>...	Disable monitoring of exclusive priorities on incoming messages
DSXP MSGO <link#><pri><pri>...	Disable monitoring of exclusive priorities on outgoing messages
DSXT MSGI <link#><l><s><c><u>	Disable exclusive TN incoming message monitoring
DSXT MSGO <link#><l><s><c><u>	Disable exclusive TN outgoing message monitoring
ENIM MSGI <link#><msg1><msg2>...	Enable inclusive input/output message monitoring of only those specified incoming messages
ENIM MSGO <link#><msg1><msg2>...	Enable inclusive input/output message monitoring of only those specified outgoing messages
ENIP MSGI <link#><pri><pri>...	Enable inclusive input/output monitoring of incoming messages with specified priorities

ENIP MSGO <link#><pri><pri>...	Enable inclusive input/output monitoring of outgoing messages with specified priorities
ENIT MSGI <link#><l><s><c><u>	Enable inclusive input/output monitoring of incoming messages with specified TN
ENIT MSGO <link#><l><s><c><u>	Enable inclusive input/output monitoring of outgoing messages with specified TN
ENL MSGI x	Enable output of incoming layer seven messages on AML x
ENL MSGO x	Enable output of outgoing layer seven messages on AML x
ENL PACI x	Enable output of incoming layer two messages on AML x
ENL PACO x	Enable output of incoming layer two messages on AML x
ENXM MSGI <link#><msg1><msg2>...	Enable message input/output monitoring excluding those specified incoming messages
ENXM MSGO <link#><msg1><msg2>...	Enable message input/output monitoring excluding those specified outgoing messages
ENXP MSGI <link#><pri><pri>...	Enable input/output incoming message monitoring excluding messages with specified priorities
ENXP MSGO <link#><pri><pri>...	Enable input/output outgoing message monitoring excluding messages with specified priorities
ENXT MSGI <link#><l><s><c><u>	Enable input/output message monitoring excluding incoming messages with specified TN
ENXT MSGO <link#><l><s><c><u>	Enable input/output message monitoring excluding outgoing messages with specified TN
FLSH	Disable monitor and flash buffers
STAT MON (x)	Get status of one or all message monitors

Auxiliary Processor Link (APL) commands

The following commands are used to enable, disable, test and check the status of an APL link.

DIS APL x	Put software AUX link x in maintenance mode
DIS ISDI x	Disable hardware AUX link SDI x
ENL APL x	Put software AUX link x in non-maintenance mode
ENL ISDI x	Enable AUX link SDI x
STAT APL x	Display status of AUX link x
STAT DSP LNK x	Get status of all Displays on link x
STAT ISDI x	Get status of hardware AUX link SDI x

APL monitor commands

The APL monitor is a tool used to diagnose the messages flowing across the link. This is only useful for someone experienced with the message formats and protocols.

DIS PPRT x	Disable packet message print option on link x
DIS UPRT x	Disable unpacket message print on AUX link x
ENL PPRT x	Enable packet message print option on link x
ENL UPRT x	Enable unpacked message print on link x
ENLX MSGI x p	Output incoming priority p messages from link x
ENLX MSGO x p	Output outgoing priority p messages from link x
STAT CNFG	Get status of link monitor/simulator configuration
STAT CSDI x	Get status of SDI port x
STAT DSP LNK x	Get status of all Displays on link x

CSL commands (X11 Release 17 and earlier)

The following commands are used to enable, disable, test and check the status of Command and Status links. Note: Use AML commands in X11 Release 18 and later.

ACMS x	Automatic set-up for Command and Status link x
CON ESDI x	Set up link layer of HDLC protocol
DIS CMS x	Disable Command and Status link x
DIS ESDI x	Disable ESDI x
DSC ESDI x	Disconnect the link
ENL CMS x	Enable CSL x
ENL ESDI x	Enable ESDI x
SLFT ESDI x	Invoke ESDI and run self-test
STAT CMS x	Get status of Command and Status link
STAT ESDI x	Get status of ESDI x
SWCH CMS x y	Switch active (x) and standby (y) CSL

Intercept Computer Update (ICU) commands

DIS ICP x	Put ICP link x into maintenance mode
DSIC LSTI x	Disable printing of lost input messages on link x
DSIC LSTO x	Disable printing of lost output messages on link x
DSIC MSGI x	Disable printing of input messages on link x at input queue level
DSIC MSGO x	Disable printing of output messages on link x at output queue level
DSIC PACI x	Disable printing of input messages on link x at input buffer level
DSIC PACO x	Disable printing of output messages on link x at output buffer level
ENIC LSTI x	Enable printing of lost input messages on link x
ENIC LSTO x	Enable printing of lost output messages on link x
ENIC MSGI x	Enable printing of messages on link x at input queue level
ENIC MSGO x	Enable printing of messages on link x at output queue level
ENIC PACI x	Enable printing of input messages on link x at input buffer level
ENIC PACO x	Enable printing of output messages on link x at output buffer level
ENL ICP x	Enable ICP link x
ICP LINK xx	Set up ICP link x to be used in the ICP message
ICP DN xxxx	Set up ICP DN xxxx to be used in the ICP message
ICP IPN xx	Set up IPN number xx to be used in the ICP message
ICP RSN x	Set up the intercept transfer reason x to be used in the ICP message
ICP ADD xxxx	Set up additional information xxxx to be used in the ICP message
ICP CLR	Clear previous ICP message set up without sending it
ICP SEND xx yy	Send the defined ICP message number xx, yy times
ICPM	Access ICP maintenance commands
PSWD	Enter password to use ICP maintenance commands
STAT ICP (x)	Display software status of one or all ICP links

ISDN BRI monitor commands

These commands are used to monitor input/output messages to the MISP, and SILC/UILC. This is only useful for someone experienced with the message formats and protocols. A password is required for DGB and MON options. The SETM TNx, RSET TNx and RSET ALL commands are also available for digital telephones.

Caution: Use of the SETM MISP loop MON commands may use all system printing registers and cause an initialization.

RSET ALL	Reset (turn off) printing of messages for all terminal numbers associated with TN0-TN6.
RSET BRIM	Stop printing of messages on SILC/UILC, MISP or digital line card.
RSET MISP x AMO	Stop printing of audit messages on MISP specified.
RSET MISP x DGB	Exit MISP debug.
RSET MISP x MNT	Stop printing status messages on MISP specified.
RSET MISP x MON	Stop printing input/output messages on MISP specified.
RSET TNx	Stop printing of messages for terminal number associated with TNx. TNx is associated with the terminal number by the SETM TNx command.
SETM BRIM xxxx	Set printing of selected message types for MISP, SILC/UILC or digital line cards.
SETM MISP x AMO	Set printing of audit messages on MISP specified. The SETM TNx command must have been issued before issuing this command.
SETM MISP x DBG	Set debug option for the MISP specified. DISABLE MISP prior to issuing this command, re-enable MISP after command issued.
SETM MISP x MNT	Set printing of maintenance messages for the MISP specified.
SETM MISP x MON	Set printing of input/output messages for the MISP specified.
SETM TNx l s c u, dsl	Set printing messages on a unit
SETM TNx l s c u, 31	Set printing messages on a digital line card unit (u) or ISDN BRI line card (31)
SETM TNx y	Set printing of messages for specified digital line card unit or ISDN BRI line card.

Multipurpose Serial Data Link (MSDL) commands

The MSDL commands are listed below, **x** is the MSDL device number (defined by prompt DNUM in LD 17). These commands are also provided in Input/Output Diagnostic (LD 37) and D-channel Diagnostic (LD 96).

DIS MSDL x (ALL)	Disable MSDL device x
ENL MSDL x (ALL, FDL)	Enable MSDL device x
RST MSDL x	Reset MSDL device x
SLFT MSDL x	Invoke self-test for MSDL device x
STAT MSDL (x [FULL])	Get MSDL status

Single Terminal Access (STA) commands

Single Terminal Access (STA) is an application available on the MSDL card with X11 Release 19 and later. The STA application reduces the number of physical devices used to administer and maintain the Meridian 1 and its auxiliary processors. Refer to the *X11 system management applications* NTP for complete details.

DIS STA x	Disable the STA application
ENL STA x (FDL)	Enable STA application
MAP STA x	Get information relating to the STA application
STAT STA x	Get status of STA application

Voice Mailbox Administration (VMBA) commands

Voice Mailbox Administration (VMBA) is available with X11 Release 19 and Meridian Mail 9. It allows for Integrated Voice Mailbox Administration. Refer to the *X11 features and services* NTP for complete details.

DIS VMBA <vsid>	Disable the Voice Mailbox Administration application
DIS VMBA <vsid> AUDT	Disable the mailbox database audit
DIS VMBA <vsid> UPLD	Disable the mailbox database upload
ENL VMBA <vsid>	Enable the Voice Mailbox Administration application
ENL VMBA <vsid> AUDT	Enable the mailbox database audit
ENL VMBA <vsid> UPLD	Enable the mailbox database upload
STAT VMBA <vsid>	Get the status for the Voice Mailbox Administration application
STAT VMBA <vsid> AUDT	Get the status for the Voice Mailbox database audit
STAT VMBA <vsid> UPLD	Get the status for the Voice Mailbox database upload

Alphabetical list of commands

Command	Description	Pack/Rel
ACMS x	Automatic set-up for Command and Status link x. ACMS is a background process. The given CSL must have been previously disabled. This command is equivalent to using the ENL ESDI x, CON ESDI x and ENL CMS x sequence of commands to set up a Command and Status link or Meridian link. If the first attempt to bring up the CSL fails, ACMS will automatically try again to set up the link. If set-up failure continues, an appropriate error code is generated periodically. Use ENL AML x ACMS command in X11 Release 18 and later.	csl-8
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1
CON ESDI x	Set up link layer of HDLC protocol. This command is only applicable for a synchronous port. This command is valid only if the ESDI is enabled. If successful, the corresponding ESDI port will be in the CONNECTED state. If the port is used for a CSL application, the command ENL CMS x must be entered before the CSL is operational. Use EST AML x command in X11 Release 18 and later.	csl-8
DIS AML x	Disable AML x. Whenever the third parameter (LYR2, LYR7, etc.) is not typed, the overlay defaults the third parameter of the DIS command to LYR2. Therefore, this command is equivalent to DIS AML x LYR2. Refer to DIS AML x LYR2 command definition, for more information.	msdl-18
DIS AML x AUTO	Disable AUTO recovery on AML x (MSDL only). This command is not available for an ESDI AML.	msdl-18

DIS AML x LYR2	Disable layer two on AML x. MSDL Requirement: The MSDL card must be enabled. The AML link state can be any state other than the disabled state, and should not be in the process of self-test. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. MSDL Action: The AML link state is changed to the disable state. The MSDL port on which the AML is configured is disabled. ESDI: The ESDI port is disabled. The port must be idle.	msdl-18
DIS AML x LYR7	Disable layer seven on AML x. The MSDL or ESDI card must be enabled. The AML layer two must be enabled and established, and AML layer seven must also be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 followed by EST AML x followed by ENL AML x LYR7 must have been executed at an earlier time. Action: A request to disable the AML layer seven is issued. SL-1 will stop sending polling messages to the far-end.	msdl-18
DIS AML x MDL	Disable MDL error reporting on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. MSDL Action: The MSDL AML loadware command to disable the debug monitor is sent to the MSDL card. This command is not available for ESDI AML.	msdl-18
DIS AML x MON	Disable monitor on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. MSDL Action: The MSDL AML loadware command to disable the debug monitor is sent to the MSDL card. This command is not available for ESDI AML.	msdl-18
DIS APL x	Put software AUX link x in maintenance mode.	apl-1

DIS CMS x	Disable Command and Status link x. This command does not disable the physical or link layer (HDLC protocol) of the CSL. i.e., the corresponding ESDI is not disabled or disconnected. Warning messages will appear if an attempt is made to disable the active CSL but the link can be disabled if desired. Use DIS AML x LYR7 command in X11 Release 18 and later.	csl-8
DIS ELAN	Disable the ELAN (server task)	nxcc-22
DIS ELAN x	Disable ELAN link number x (client task) If the application ELAN client task cannot be established from the Meridian 1, the Meridian 1 can disable the client task with this command.	nxcc-22
DIS ESDI x	Disable ESDI x. If the port is used for CSL purposes, the link layer is disconnected and the ESDI will NOT respond to far end SABM (HDLC protocol). Also, ESDI can no longer interrupt the SL-1. A warning message will appear if an attempt is made to disable the active CSL, though it can be disabled, if desired. You cannot disable the active TTY port with this command. Use DIS AML x LYR2 command in X11 Release 18 and later.	csl-8
DIS HSL	Disable the high-speed link.	lnk-2
DIS IALM <vsid>	Disable the integrated alarms application on the specified VAS. A VAS011 message is printed indicating the application has been disabled.	ialm-21
DIS ICP x	Put ICP link x into maintenance mode.	icp-5
DIS ISDI x	Disable hardware AUX link SDI x.	apl-1
DIS MON	Disable the monitor-bit of high-speed link data.	apl-1

DIS MSDL x (ALL)	Disable MSDL device. When entered without the optional parameter, the disable MSDL command attempts to disable the MSDL card. Disabling the card via this command is permitted from either the Enabled (ENBL) state or the System Disabled (SYS DSBL) state. When attempted on an MSDL that does not have any ports enabled, this command will succeed. The only exception to this is when the disable card message needs to be sent to the card, and there is no buffer currently available for building the message (MSDL015 is output to the TTY). In this unusual situation, attempting the command again will most likely result in success. Application Overlays are not erased when the MSDL is disabled. If there are any ports that are still running in the MSDL card, the 'ALL' option must be used to force disable the active ports. As an alternative to this command, the craftsperson can use the commands provided by the applications to disable the ports (D-channels or AML) individually, and then use the 'DIS MSDL x' command. The command 'DIS MSDL x ALL' is not allowed if the active TTY (the terminal from which the command was entered) is supported on the MSDL card in question. Software disable the logical channel prior to disabling the physical DNUM port.	msdl-18
DIS MSGI x	Disable printing of messages on link x at input queue level. Disable output of incoming layer seven messages on AML x.	csl-8
DIS MSGO x	Disable printing of messages on link x at output queue level. Disable output of outgoing layer seven messages on AML x.	csl-8
DIS PACI x	Disable printing of input messages on link x at input buffer level. (disable output of incoming layer two messages on AML x)	csl-8
DIS PACO x	Disable printing of output messages on link x at output buffer level. (disable output of outgoing layer two messages on AML x)	csl-8

DIS PPRT x	Disable packet message print option on link x.	apl-1
DIS PRNT	Disable the print-bit of high-speed link data.	apl-1
DIS SDI HIGH	Disable the SDI port for high-speed link.	lnk-2
DIS SDI LOW	Disable the SDI port for low-speed link.	lnk-2
DIS STA x	Disable the STA application. This command disables the application, the administration port, and any other additional ports. The associated ports must be disabled before using this command. x = the logical ID number identifying the STA application.	sta-19
DIS UPRT x	Disable unpacket message print on AUX link x.	apl-1
DIS VMBA <vsid>	Disable the Voice Mailbox Administration application. This command is used to disable the Voice Mailbox Application. Enter the command in the following format: - DIS VMBA <vsid> <NNNN> Where: - vsid = The VAS ID number associated with VMBA. - NNNN = AUDT or UPLD for the database audit or upload. AUDT and UPLD are optional entries. The VAS ID must be entered. The Voice Mailbox audit and upload functions are aborted when the application is disabled. Be sure to get the status of those functions before disabling the application.	vmba-19
DIS VMBA <vsid> AUDT	Disable the mailbox database audit. This command aborts the audit function whether it was invoked manually or automatically.	vmba-19
DIS VMBA <vsid> UPLD	Disable the mailbox database upload. This command aborts the audit function whether it was invoked manually or automatically.	vmba-19

DISM MSGI <link#><msg1><msg2>...	Disable message input/output monitoring excluding those specified incoming messages	nxcc-22
DISM MSGO <link#><msg1><msg2>...	Disable message input/output monitoring excluding those specified outgoing messages	nxcc-22
DSC ESDI x	Disconnect the link. This command is only applicable when the ESDI port is in CONNECTED state. If the command is entered successfully, ESDI x is in enabled state. If this command is entered while the CSL is active, a warning message is generated. Disabling while in this state disables the CMS and ESDI. Use RLS AML x command in X11 Release 18 and later.	cs1-8
DSIC LSTI x	Disable printing of lost input messages on link x.	icp-5
DSIC LSTO x	Disable printing of lost output messages on link x.	icp-5
DSIC MSGI x	Disable printing of input messages on link x at input queue level.	icp-5
DSIC MSGO x	Disable printing of output messages on link x at output queue level.	icp-5
DSIC PACI x	Disable printing of input messages on link x at input buffer level.	icp-5
DSIC PACO x	Disable printing of output messages on link x at output buffer level.	icp-5
DSIM MSGI <link#>	Disable inclusive incoming message monitoring	nxcc-22
DSIM MSGO <link#>	Disable inclusive outgoing message monitoring	nxcc-22
DSIP MSGI <link#><pri><pri>...	Disable monitoring of inclusive priorities on incoming messages	nxcc-22

LD 48

DSIP MSGO <link#><pri><pri>...	nxcc-22
Disable monitoring of inclusive priorities on outgoing messages	
DSIT MSGI <link#><l><s><c><u>	nxcc-22
Disable inclusive TN incoming message monitoring	
DSIT MSGO <link#><l><s><c><u>	nxcc-22
Disable inclusive TN outgoing message monitoring	
DSXP MSGI <link#><pri><pri>...	nxcc-22
Disable monitoring of exclusive priorities on incoming messages	
DSXP MSGO <link#><pri><pri>...	nxcc-22
Disable monitoring of exclusive priorities on outgoing messages	
DSXT MSGI <link#><l><s><c><u>	nxcc-22
Disable exclusive TN incoming message monitoring	
DSXT MSGO <link#><l><s><c><u>	nxcc-22
Disable exclusive TN outgoing message monitoring	
ENIC LSTI x	icp-5
Enable printing of lost input messages on link x.	
ENIC LSTO x	icp-5
Enable printing of lost output messages on link x.	
ENIC MSGI x	icp-5
Enable printing of messages on link x at input queue level.	
ENIC MSGO x	icp-5
Enable printing of messages on link x at output queue level.	
ENIC PACI x	icp-5
Enable printing of input messages on link x at input buffer level.	
ENIC PACO x	icp-5
Enable printing of output messages on link x at output buffer level.	
ENIM MSGI <link#><msg1><msg2>...	nxcc-22
Enable inclusive input/output message monitoring of only those specified incoming messages	

ENIM MSGO <link#><msg1><msg2>...	nxcc-22
Enable inclusive input/output message monitoring of only those specified outgoing messages	
ENIP MSGI <link#><pri><pri>...	nxcc-22
Enable inclusive input/output monitoring of incoming messages with specified priorities	
ENIP MSGO <link#><pri><pri>...	nxcc-22
Enable inclusive input/output monitoring of outgoing messages with specified priorities	
ENIT MSGI <link#><l><s><c><u>	nxcc-22
Enable inclusive input/output monitoring of incoming messages with specified TN	
ENIT MSGO <link#><l><s><c><u>	nxcc-22
Enable inclusive input/output monitoring of outgoing messages with specified TN	
ENL AML x	esdi/ msdl-18
Enable AML x.	
For MSDL: If AUTO recovery is off, then this command is the same as the ENL AML x LYR2 command. If AUTO recovery is on, an attempt is made to establish the link (layer two) and the application (layer seven).	
For ESDI: This is the same as the ENL AML x LYR2 command.	
ENL AML x ACMS	esdi-18
Enable automatic set-up on AML x (ESDI only). This command is valid only for ESDI AML and is not available on the MSDL AML. It is equivalent to ACMS x command.	
ENL AML x AUTO	msdl-18
Enable AUTO recovery on AML x (MSDL only). This command is not available for ESDI AML links.	

ENL AML x FDL	Force download loadware to the MSDL card and enable AML x. msdl-18 MSDL Requirement: The MSDL card must be enabled. The AML link state must be in the disable state. All other MSDL AML links configured on the same MSDL card must be in the disable state. Example: ENL MSDL x must have been executed at an earlier time. MSDL Action: The MSDL AML loadware is downloaded to the MSDL card. While download is in progress a series of dots are output. Once the command is executed successfully the ENL AML x LYR2 command is executed automatically.
ENL AML x LYR2	Enable layer two on AML x. msdl-18 MSDL Requirement: The MSDL card must be enabled. The AML link state must be in the disable state. Example: ENL MSDL x must have been executed at an earlier time. MSDL Action: The AML link state is changed to the release state. The MSDL port on which the AML is configured is enabled. If the ENL AML x command is executed successfully, and MSDL AML auto recovery is in the enable state, then the EST AML x is issued automatically. ESDI: The ESDI port is enabled. The ESDI card must first be disabled.
ENL AML x LYR7	Enable layer seven on AML x. msdl-18 MSDL Requirement: The MSDL card must be enabled. The AML link should not be in the simulation mode. The AML layer two must be enabled and established, and AML layer seven must be disabled. Example: ENL MSDL x followed by ENL AML x LYR2 followed by EST AML x must have been executed at an earlier time. MSDL Action: A request to enable the AML layer seven is issued. Polling messages are sent to the far end. ESDI: Layer seven is enabled for the ESDI AML. The ENL AML x (LYR2) command must be completed successfully first.

ENL AML x MDL	Enable MDL error reporting on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. MSDL Action: The MSDL AML loadware command to enable the MDL error reporting is sent to the MSDL card. This command is not available for ESDI AML links.	msdl-18
ENL AML x MON	Enable monitor on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. MSDL Action: The MSDL AML loadware command to enable the debug monitor is sent to the MSDL card This command is not available for ESDI AML links.	msdl-18
ENL APL x	Put software AUX link x in non-maintenance mode.	apl-1
ENL CMS x	Enable CSL x. This does not automatically enable the physical layer (HDLC protocol) of the CSL, i.e., the corresponding components (ESDI, Digital Link Interface, ASIM/Data Line Card) have to be enabled before this command can be entered. The command is valid only when the corresponding ESDI is in the CONNECTED state (i.e., the HDLC link layer is up). This command will trigger a polling message to be sent and if the correct response is returned, a confirmation message will be printed and a polling message sent automatically every 5 seconds. If there is no response within 5 seconds, an error message will be printed and no more polling messages will be sent. (48 messages are sent at initial set-up) Use ENL AML x LYR7 command in X11 Release 18 and later.	csl-8
ENL ELAN	Enable ELAN server task When the application establishes connection to a Meridian 1 via this ELAN, a client process will be spawned for this application. The APP_IP_ID (Port ID and IP address) of each connection will be passed into the Meridian 1.	nxcc-22

ENL ESDI x	Enable ESDI x. ESDI hardware tests will be performed and parameters will be downloaded to the ESDI port. If the command is successful, the ESDI port will be in the ENABLED state. If the ESDI is used for a CSL application, the commands CON ESDI x and ENL CSL x have to be entered before CSL is operational. Use ENL AML x LXR2 command in X11 Release 18 and later.	cs1 - 8
ENL HSL	Enable the high-speed link. When enabling a high-speed link, the craftsperson must log out of the TTY to receive a message from the switch which confirms that the high-speed link (HSL) has been enabled.	lnk-2
ENL IALM <vsid>	Enable the integrated alarms application on the specified VAS. A VAS011 message is printed if the application is successfully enabled and a VAS012 if it is not.	ialm-21
ENL ICP x	Enable ICP link x.	icp-5
ENL ISDI x	Enable AUX link SDI x.	apl-1
ENL MON	Print software information at maintenance TTY. This command causes software information being sent to the auxiliary processor to be printed at the TTY. This information would include counts of Cumulative Negative Acknowledgments (NAKs), time-outs and many other control characteristics of the link. Use this command only when the ACD is handling light traffic. Otherwise, the TTY will be overloaded from the high volume of messages.	apl-1

ENL MSDL x (FDL, ALL)

msdl-18

Enable MSDL card.

When entered without any of the optional parameters, the enable MSDL command attempts to enable the MSDL card. Enabling the card via this command is only permitted if the card is currently in the Manually Disabled (MAN DSBL) state.

The enable card succeeds if:

1. the card is resident in the shelf
2. it has passed all the self-tests
3. the MSDL base software has been downloaded and is responding

If the MSDL base software and any configured application software has not been downloaded, or if the version of the software on the card is different from the version on the system disk, software download occurs. While download is in progress, a series of dots (".") are output.

If the FDL (forced download) option is entered, the MSDL base software and all the configured applications will be downloaded regardless if the application already exists on the card. Following the download, the card will be enabled.

If the ALL option is entered, the card will be enabled (provided the three conditions mentioned above are met), all the applications will be downloaded if necessary and then an attempt will be made to enable all the links/ports configured on the card.

Additionally, the enable command with the ALL option can be entered when the card is already in the enabled state. This allows you to enable any disabled links/ports through one command. It is not possible to use both the ALL and the FDL options in the same command.

ENL MSGI x

Print incoming messages from link x. Enable output of incoming layer seven messages on AML x.

csl-8

This command allows printing of all incoming message received over link x on the maintenance output device. The SSD signaling messages and the program input are not printed. This is typically used to check the validity of incoming messages for the different queues.

ENL MSGO x	Print outgoing messages from link x. Enable output of outgoing layer seven messages on AML x. This command allows printing for all outgoing messages over link x on the maintenance output device. This is typically used to check the validity of outgoing messages sent from the application layer to the output queue.	csl-8
ENL PACI x	Print incoming ESDI messages from link x. Enable output of incoming layer two messages on AML x. When enabled, all incoming messages received on link x to the ESDI are printed on the maintenance TTY, including SSD signaling messages. Typically this is used to check the correctness of the incoming messages as received from the ESDI in the data block format.	csl-8
ENL PACO x	Print outgoing ESDI messages from link x. Enable output of incoming layer two messages on AML x. When enabled, all outgoing messages are sent through link x to the ESDI and are printed on the maintenance TTY. The message will be printed in the data block format required by the ESDI.	csl-8
ENL PPRT x	Enable packet message print option on link x. Printouts can be up to 7 lines in length and are of the form: • APLO xxx y xxx. . . x • APLI xxx y xxx. . . x	apl-1

Where:

- APLO = the message is output from the Meridian 1
- APLI = the message is input to Meridian 1 from AUX
- xxx = number of the APL link.
- y = number from 0 to 6 indicating the printout line number of the message. This field is not used for ACK and NAK messages.

ENL PRNT	Connect high-speed link to TTY. Disconnects the high-speed link from the AUX and connects it instead to an RS-232-C compatible TTY device. This disrupts communication between the Meridian 1 and the auxiliary processor. It enables ACD related messages (which would normally be sent to the auxiliary processor) to be printed at the TTY connected to the high-speed link. Normal communications between the Meridian 1 and the auxiliary processor will not continue if the ENL PRNT command is inputted while the Meridian 1 and auxiliary processor are still connected. A different message format is used between the Meridian 1 and the auxiliary processor. This condition will cause the HSL to go down because the auxiliary processor cannot interpret this other message format.	apl-1
ENL SDI HIGH	Enable SDI port for high-speed link. When enabling a high-speed link, the craftsperson must log out of the TTY to receive a message from the switch which confirms that the high-speed link (HSL) has been enabled.	lnk-2
ENL SDI LOW	Enable SDI port for low-speed link.	lnk-2
ENL STA x (FDL)	Enable STA application. The MSDL card must be enabled to implement this command, where: • x = the logical ID number identifying the STA application. • FDL = force download the application. If not invoked, the application is downloaded only when needed	sta-19
ENL UPRT x	Enable unpacked message print on link x. Printouts are of the form: APLMxxx aa b c zzzz. . . z Where: • APLMxxx = indicates unpacked message over link xxx • aa = indicates the message length • b = indicates the application type • c = indicates the message type • zzz = these fields are the message body, depending on the application and message type	apl-1

ENL VMBA <vsid> vmba-19

Enable the Voice Mailbox Administration application. Enter the command in the following format:

ENL VMBA <vsid> <NNNN> ALL/xxxx

Where:

- vsid = The VAS ID number associated with VMBA.
- NNNN = AUDT or UPLD for the mailbox database audit or upload functions.
- ALL/xxxx = Enable NNNN for ALLDNs with Voice Mailboxes, or a specific DN (xxxx).

NNNN and ALL/xxxx are optional entries. The VAS ID must be entered to initiate this command.

ENL VMBA <vsid> AUDT vmba-19

Enable the mailbox database audit. Enter the command in the following format:

ENL VMBA <vsid> AUDT ALL/xxxx

The audit can be implemented for a specific Directory. Number by entering the DN following the audit command:

- ENL VMBA <vsid> AUDT xxxx

The upload can also be enabled for all DN's eligible for a Voice Mailbox by entering ALL following the audit command:

- ENL VMBA <vsid> AUDT ALL

ENL VMBA <vsid> UPLD vmba-19

Enable the mailbox database upload. Enter the command in the following format:

- ENL VMBA <vsid> UPLD ALL/xxxx

The upload can be implemented for a specific Directory. Number by entering the DN following the upload command:

- ENL VMBA <vsid> UPLD xxxx

The audit can also be enabled for all DN's configured with Voice Mailboxes by entering ALL following the upload command:

- ENL VMBA <vsid> UPLD ALL

ENLX MSGI x p	Output incoming priority p messages from link x. When enabled by the user, all incoming messages received on link x are output, excluding the messages with specified priorities, where “p” is the message priority, and where: • 1 = the system priority • 2 = signaling priority • 3 = call processing priority • 4 = administration priority	apl-1
ENLX MSGO x p	Output outgoing priority p messages from link x. When enabled by the user, all outgoing messages sent through link x are output, excluding the messages with specified priorities, where “p” is the message priority, and where: • 1 = the system priority • 2 = signaling priority • 3 = call processing priority • 4 = administration priority.	apl-1
EST AML x	Establish layer two on AML x. The layer two is established for the AML configured on the given MSDL port. The layer two is connected for the AML configured on the ESDI card. MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled and released. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. MSDL Action: The MSDL AML link state is changed into the established state. If EST AML x executes successfully, and provided that the MSDL AML AUTO recovery is enabled, next the ENL AML x LYR7 is executed automatically. ESDI: Layer two is connected for the ESDI AML. The port must be enabled first.	msdl-18
ENXM MSGI <link#><msg1><msg2>...	Enable message input/output monitoring excluding those specified incoming messages	nxcc-22
ENXM MSGO <link#><msg1><msg2>...	Enable message input/output monitoring excluding those specified outgoing messages	nxcc-22

ENXP MSGI <link#><pri><pri>...	Enable input/output incoming message monitoring excluding messages with specified priorities	nxcc-22
ENXP MSGO <link#><pri><pri>...	Enable input/output outgoing message monitoring excluding messages with specified priorities	nxcc-22
ENXT MSGI <link#><l><s><c><u>	Enable input/output message monitoring excluding incoming messages with specified TN	nxcc-22
ENXT MSGO <link#><l><s><c><u>	Enable input/output message monitoring excluding outgoing messages with specified TN	nxcc-22
FLSH	Disable monitor and flash buffers	nxcc-22
ICP ADD xxxx	Set up additional information xxxx to be used in the ICP message. Enter the time (hhmm) and date (mmdd).	icp-5
ICP CLR	Clear previous ICP message set up without sending it.	icp-5
ICP DN xxxx	Set up ICP DN xxxx to be used in the ICP message.	icp-5
ICP IPN xx	Set up IPN number xx to be used in the ICP message.	icp-5
ICP LINK xx	Set up ICP link xx to be used in the ICP message.	icp-5
ICP RSN x	Set up the intercept transfer reason x to be used in the ICP message.	icp-5
ICP SEND xx yy	Send the defined ICP message number xx, yy times. Where: • xx = number/type of ICP message (50-61 to the ICP link, 00-03 to the ICP module) • yy = number of times message is to be sent per time-slice (default = 1, maximum = 4) The message is only cleared by entering the ICP CLR command or by changing the contents of the message.	icp-5

ICPM	Access ICP maintenance commands. Enter this command and the password (prompt PSWD) to use Intercept Computer Update (ICP) maintenance commands.	icp-5
MAP AML (x)	Get physical address and card name of one or all AMLs. This command outputs the card name and physical card address and ports for one or all AMLs. This information is also output with the STAT AML command. For example: • MAP AML • AML: 05 ESDI: 04 • AML: 12 MSDL:07 PORT:1	msdl-18
MAP STA x	Get information relating to the STA application. This command displays the logical, physical, and port allocation information related to the STA application. If the ID number (x) is not specified, the information for all existing STAs is given.	sta-19
PSWD	Enter password to use ICP maintenance commands.	icp-5
RLS AML x	Release layer two on AML x. The layer two is released for the AML link configured on the given MSDL port. The layer two is disconnected for the AML configured on the ESDI card. MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled and established. Example: ENL MSDL x followed by ENL AML x LYR2 followed by EST AML x must have been executed at an earlier time. MSDL Action: Prior to the execution of the RLS AML x, if the MSDL AML layer seven is enabled, the DIS AML x LYR7 is automatically executed. The MSDL AML state is changed to the release state. ESDI: The layer two is disconnected for the ESDI AML port. The port must be in the connected and idle state first.	msdl-18
RSET ALL	Stop printing all messages on a line card.	arie/ bri-14
RSET BRIM	Stop printing of messages on SILC/UILC, MISP or digital line card.	bri/ arie-18

RSET IFx 1 PDL2 1	Stop printing SAPI 16 interface messages.	mph-19
RSET IFx 1 PDNI n	Stop printing network interface messages.	mph-19
RSET IFx l s c u BCH x	Stop printing B-channel terminal interface messages.	mph-19
RSET IFx l s c u DCHx	Stop printing D-channel terminal interface messages.	mph-19
RSET IMSG l s c dsl	Disable monitoring on incoming	
RSET MISP x AMO	Stop printing of audit messages on MISP specified. Where: x = loop for non-Option 11 and card for Option 11.	bri-18
RSET MISP x DGB	Exit MISP debug. Where: x = loop for non-Option 11 and card for Option 11.	bri-18
RSET MISP loop MNT	Stop printing of status messages on MISP specified. Where: x = loop for non-Option 11 and card for Option 11.	bri-18
RSET MISP x MON	Stop printing of input/output messages on MISP specified. Where: x = loop for non-Option 11 and card for Option 11.	bri-18
RSET MPHM	Stop all Meridian Packet Handler message monitoring.	mph-19
RSET OMSG l s c dsl	Disable monitoring on outgoing	
RSET TNx	Stop printing messages on an ISDN BRI line card. Where: x = 0-6 (TN0-TN6).	bri-18

RST MSDL x Reset MSDL card. msdl-18

This command causes a power-on reset on the MSDL, followed by a series of short self-tests. Resetting the card via this command is only permitted if the card is in the Manually Disabled (MAN DSBL) state.

SET IMSG l s c dsl MON x
Set monitor on incoming msg

SET OMSG l s c dsl MON x
Set monitor on outgoing msg

SETM BRIM xxxx

bri-18

Set printing of messages on SILC/UILC, MISP, or digital line card.

This command is used to select various message types for printing on a given TN (defined by SETM TNx commands). The value of xxxx is a HEX word which determines the message types.

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
				X						X	X	X	X	X	X

Bit 0 = Input SSD message from BRI line cards.

Bit 1 = Output SSD message to BRI line cards.

Bit 2 = Input expedited (high priority) message from BRIL application on MISP.

Bit 3 = Output expedited (high priority) message from BRIL application on MISP.

Bit 4 = Input ring message from BRIL application on MISP.

Bit 5 = Output ring message from BRIL application on MISP.

Bit 11 = Call processing error message.

All other Bits are for future use. Note that the SETM TNx command must have been issued before issuing this command.

Examples:

To print input SSD and expedited messages:

- SETM BRIM 0005 (i.e., 0000000000000101)

To print input and output expedited messages:

- SETM BRIM 000C (i.e., 0000000000001100)

SETM IFx 1 PDL2 1

mph-19

Set printing of SAPI 16 interface messages.

SETM IFx 1 PDNI n

mph-19

Set printing of network interface messages.

SETM IFx I s c u BCHx

mph-19

Set printing of B-channel terminal interface messages.

SETM IFx I s c u DCHx

mph-19

Set printing of D-channel terminal interface messages.

SETM MISP x AMO

bri-18

Set printing of audit messages on MISP specified.

Where: x = loop for non-Option 11 and card for Option 11.

These messages are sent from the MISP handler to the MISP basecode. This command is used to turn these messages back on once they have been turned off because:

- debug or monitor (MON) mode is enabled
- RSET x AMO command has been issued

SETM MISP x DBG

bri-18

Set debug option on MISP specified. Where: x = loop for non-Option 11 and card for Option 11.

The card must be disabled first. The debug option has the following effect when the MISP is enabled:

- turns off the sanity timer
- stops interface handler audit messages
- no timestamp messages are sent to the MISP card

This command requires a password. The “dot” prompt indicates debug mode is turned on.

SETM MISP x MNT

bri-18

Set printing of status messages on MISP specified.

Where: x = loop for non-Option 11 and card for Option 11.

These messages indicate:

- error indication messages from the MISP
- state of L1 on SILC/UILC and L2/L3 on MISP

This option setting is lost during an initialization.

SETM MISP x MON	Set printing of input/output messages on MISP card. Where: x = loop for non-Option 11 and card for Option 11. Both the expedited and ring input/output messages are printed. This command also sets the debug option and requires a password. This command turns on all input/output messages. This may use up all system print registers and may cause system initialization. Therefore use this command with caution. The debug option is turned off by a system initialization. Restarting debug will also restart the input/output monitoring. DISABLE MISP prior to issuing this command, re-enable MISP after command issued.	bri-18
SETM MPHx xxxx	Set printing of Meridian Packet Handler messages. Where: xxxx = the MPHs to be monitored	mph-19
SETM TNx l s c u, 31	Set printing messages on a digital line card unit (u) or ISDN BRI line card (31). This command is used in conjunction with the SETM BRIM command. The value x is a tag number (0-6). For ISDN BRI line cards, you must enter "l s c 31" for the address.	arie/ bri-14
SETM TNx l s c u, dsl	Set printing messages on a unit. This command is used in conjunction with the SETM BRIM command. The value x is a tag number (0-6).	arie/ bri-14
SETM TNx y	Set printing messages on a digital line card unit or ISDN BRI line card. Where: x = tag number 0-6 (TN0-TN6) y = l s c u (loop, shelf, card, and unit) or l s c dsl (loop, shelf, card, and digital subscriber loop) for non-Option 11 systems and c u (card, and unit) or c dsl (card, and digital subscriber loop) for Option 11 systems. If u = 31 when a S/T (SILC) or U (UILC) Interface Line Card is specified for the y parameter, then messages for that line card are printed. This command must be issued before the SET BRIM command.	bri-18

SLFT AML x	Self-test on AML x. This command runs the local loop back test for MSDL AML, and the ESDI self-test for the ESDI AML. MSDL Requirement: The MSDL card must be enabled. The AML layer two must be disabled. Example: ENL MSDL x must have been executed at an earlier time. MSDL Action: The MSDL AML local loop back test is executed and upon completion of the test the MSDL AML port is set to the disable state.	msdl-18
SLFT ESDI x	Invoke ESDI and run self-test. The command is only valid for the port which is in an enabled state and when the other port on the ESDI pack is in the disabled state (tests the whole card). If the self-test passes, OK is output; otherwise, an error message is output. Use SLFT AML x command in X11 Release 18 and later.	csl-8
SLFT MSDL x	Execute a self-test on MSDL card x. This command causes a power-on reset on the MSDL, which will be followed by a complete set of self-tests. This command only executes self-tests if the card is in the Manually Disabled (MAN DSBL) state. If the self-tests pass, a message indicating this and card id is output. If the self-tests fail, a message is output describing which self-test failed. It is useful to note that the first test that fails will abort the self-test sequence, so this command only indicates one test failure, even if multiple tests might fail.	msdl-18

STAT AML (x) Get AML status. msdl-18

This command outputs the status of layer two and layer seven of one or all configured AMLs. The designation (DES) of the AML is output if it has been defined for the port in LD 17.

Examples:

```
AML: 01 MSDL: 08 PORT: 00
LYR2: DSBL AUTO: OFF LYR7: DOWN
DES: MERIDIAN_MAIL
AML: 04 ESDI: 10
LYR2: EST AUTO: ON LYR7: ACTIVE
```

STAT APL x Display status of AUX link x. apl-1

STAT CMS x Get status of Command and Status link. csl-8

Status may be:

1. DOWN = CSL is not available. Link layer may not be up (Enhanced Serial Data Interface state is not CONNECTED) or there may be no polling message response after two tries.
2. DOWN AUTOSETUP = Meridian 1 software is attempting Auto Set-Up of a CSL, but the CSL is not available. Link layer (HDLc protocol) may not be up (ESDI state is not connected) or there may be no polling message response after two tries.
3. ACTIVE EMPTY = CSL is in ACTIVE state and there are no messages waiting to be sent.
4. ACTIVE NOT EMPTY = CSL is in ACTIVE state and there are some messages in the queue waiting to be sent.
5. ACTIVE FULL = CSL is in ACTIVE state and the call register queue is full of messages to be sent. It may be an indication of a problem.
6. STANDBY = CSL is in standby mode. The Enhanced Serial Data Interface (ESDI) has established the link layer and can become ACTIVE (switchover).
7. ACTIVE EMPTY CCR DISABLE = Customer Controlled Routing feature is not implemented or not enabled.

Use STAT AML x command in X11 Release 18 and later.

STAT CNFG	Get status of link monitor/simulator configuration. csl-8 Display link monitor/simulator configuration status. The system will respond according to the current configuration as follows: — *NOT CNFG - if system is not configured — *CNFG INT/SIM CSLAPL x CSLSIM x if the system is in internal maintenance mode; shows link numbers of CSLSIM and CSL application program — *CNFG FLD CSL x if the system is in field maintenance mode; shows CSL link number	
STAT CSDI x	Get status of SDI port x.	basic-1
STAT DSPLNK x	Get status of all Displays on link x.	apl-1
STAT ELAN	Check status of all configured AML over Ethernet (ELAN) links	nxcc-22
STAT ELAN x	Check status of specific AML over Ethernet (ELAN) link x	nxcc-22
STAT ESDI x	Get status of ESDI x. csl-8 Status may be: 1. DISABLED = ESDI cannot communicate with the Meridian. Interrupt is disabled. 2. ENABLED = Meridian 1 has already down-loaded parameters to ESDI. ESDI is in internal WAIT state. Self-test can only be performed while in this state. CON ESDI command can also be issued to bring up the link layer. 3. CONNECTED = ESDI has already brought up the link layer and is ready to send and receive messages (result of entering CON ESDI x command). 4. AUTO SETUP = ESDI is trying to automatically bring up the link layer for the High-Level Data Link Control (HDLC) for CSL application. This state will occur during automatic recovery of the CSL, or after the ACMS x command has been issued. Use STAT AML x command in X11 Release 18 and later.	

STAT HSL	Get high-speed link status. Response can be either: 1. UP 2. DOWN, or 3. NOT READY	lnk-2
STAT IALM <vsid>	Print the status of the integrated alarms application on the specified VAS, where: • ACTIVE = active IALM application • INACTIVE = inactive IALM application • MANDIS = manually disabled IALM application (disabled in LD 48) • LINKOOS = inactive IALM application (because link to the AP is out of service)	ialm-21
STAT ICP (x)	Display software status of one or all ICP links.	icp-5
STAT ISDI x	Get status of hardware AUX link SDI x.	apl-1
STAT LSL	Get low-speed link status. Response can be either UP, DOWN or NOT READY. This command is invalid in X11 release 19 and later.	lnk-2
STAT MON (x)	Get status of one or all message monitors. The system will respond with the status. If all monitors are disabled, the response is: MSGO DIS MSGI DIS PACO DIS PACI DIS X25I DIS X25O DIS If the monitor function is enabled, for outgoing messages on two links, the response is: MSGO ENL CSL x	csl-8

STAT MSDL (x (FULL))

msdl-18

Get MSDL status.

This command outputs the status of MSDL cards. Without any optional parameters (no card number, etc.), the status of all MSDL cards in the system is output.

When a card number alone is provided with the command, the status of the card is output along with additional information regarding the applications configured on the card.

Specifically, for each D-channel or AML configured on the card, the application name, logical number and port status is output.

For example:

```
MSDL x: ENL
AML 11 DIS      PORT 1
DCH 25 OPER PORT 2
AML 03 OPER PORT 3
```

If the FULL option is entered along with the MSDL number, the Meridian 1 outputs all the information output for the 'STAT MSDL x' command along with the following additional information:

- card ID
- bootload firmware version
- basecode version
- basecode state
- when the basecode was activated (if it is active)
- each application version
- each application state
- when each the application was activated (if it is active)

The card status is output on the first line and can be any one of the following:

MSDL x: ENBL - card is enabled

MSDL x: MAN DSBL - card disabled by the DIS MSDL command

MSDL x: SYS DSBL reason - card has been disabled by the system

The system disabled state may be due to any of the following:

1. SYS DSBL- NOT RESPONDING
 - If the MSDL is in this state, the implication is that the Meridian 1 has attempted to communicate with the MSDL and was not successful. It is possible that the card is not present in the shelf. If it is present, then it is possible that the software on the card is unable to respond to messages from the Meridian 1.
 - **Action:** Check to see if the card is properly inserted in its slot. If it is (and has been for more than a few minutes), then check the console output for MSDL or ERR messages and take the appropriate action for the error message.
 -
 - It may be that the rotary switch setting on the MSDL card is not set properly. To keep the Meridian 1 from continuously attempting recovery of the MSDL, use the 'DIS MSDL x' command to put the card in the Manually Disabled (MAN DSBL) state.
2. SYS DSBL- SELF-TESTING
 - If the MSDL is in this state, self-tests are in progress.
 - **Action:** Wait for self-tests to complete and for the Meridian 1 to examine the results. Under normal circumstances, self-tests take less than one minute to complete. However, when an erasable EPROM on the card has been cleared, self-tests may take between five and six minutes to complete. Therefore, it is prudent not to take any action at this time.
3. SYS DSBL- SELF-TESTS PASSED
 - This is a transient state. A card in a transient state has successfully completed self-tests and the Meridian 1 either is about to begin downloading the MSDL base software, or has just completed downloading the MSDL base software and is about to attempt to enable the card.

- **Action:** Wait for the Meridian 1 to begin the next step of recovery. If a more immediate recovery is desired, use the 'DIS MSDL x' command followed by the 'ENL MSDL x' command. This causes essentially the same recovery action to be taken. However, it may be faster (since it is being done as a result of input from the craftsperson).
-
- 4. SYS DSBL- SELF-TESTS FAILED
 - If the MSDL is in this state, self-tests have executed and failed on this card.
 - **Action:** Use the 'STAT MSDL x' command to determine reason for self-test failure. Disable the MSDL card using the 'DIS MSDL x' command, then use the 'SLFT MSDL x' command to execute the self-tests again.
 - If the self-tests pass, attempt to enable the card using the 'ENL MSDL x' command. If the card fails the self-tests again, record the results and replace the card.
- 5. SYS DSBL- SRAM TESTS FAILED
 - If the MSDL is in this state, self-tests have executed and passed, however when the Meridian 1 attempted to perform read/write tests to the shared RAM on the MSDL, it detected a failure.
 - **Action:** Same as for self-test failure. If the attempt to enable the card fails, record the results and replace the card.
- 6. SYS DSBL- OVERLOAD
 - The Meridian 1 has received too many messages from the MSDL. This is considered to be unacceptable, in that this much of a demand may interfere with other system functions.
 - **Action:** If the MSDL is left in this state, the Meridian 1 will attempt to bring the card back into service within a few minutes. If this is not desired, disable the card using the 'DIS MSDL x' command.
 -

- It is also advisable to identify a specific port or application that may be responsible for the overload. The identification can be made by disabling individual links/ports on the MSDL and letting the remaining links/ports operate normally.

7. SYS DSBL- RESET THRESHOLD

- If the MSDL is in this state, the Meridian 1 has detected more than four resets within ten minutes. This is considered to be unacceptable, as a normally operating card should not reset so often.
-
- It is possible that the card may be in this state due to a Fatal Error or Self-test failure from which no recovery was successful. (As the recovery from Fatal Errors and Self-test failures begins with resetting the card, repeated attempts at recovery may cause the reset threshold to be reached.)
-
- **Action:** Disable the card using the 'DIS MSDL x' command and execute the 'SLFT MSDL x' command. If self-tests pass, attempt to enable the card using the 'ENL MSDL x' command. If the problem recurs, try force downloading the software to the MSDL using the 'ENL MSDL x FDL' command.
-
- If the problem continues to recur and resets continue because of a repeated fatal error, attempt to isolate the problem by disabling all links/ports controlled by one application (e.g., all D-channels or all AMLs). If no manual intervention is taken by the craftsman, the Meridian 1 will attempt to bring the card back into service beginning at midnight.

8. SYS DSBL- FATAL ERROR

- If the MSDL is in this state, the card encountered a fatal condition from which it could not recover. In response to the 'STAT' command, the cause of the fatal error will be displayed.
-
- If the 'STAT' command is not entered while the card is in this state, the MSDL302 message printed at the time of the state transition will indicate the cause of the fatal error.

	• Action: The Meridian 1 will attempt to bring the card back into service automatically. While the card is in this state, it is recommended that the craftsperson do nothing. If the Meridian 1 is unable to recover the card, the system disabled substate will be changed to indicate the reason recovery was not possible. The craftsperson should then take the recommended action for that new substate. •	
	9. SYS DSBL- NO RECOVERY ATTEMPTED UNTIL MIDNIGHT	
	• When this is output after the SYS DSBL message, the Meridian 1 has attempted to recover the card but has repeatedly failed. One example of this condition is when the background recovery mechanism has failed to download the MSDL Base Code five times in a row. • • Action: Disable the card using the 'DIS MSDL x' command, test the card using the 'SLFT MSDL x' command, and if self-tests pass, enable the card using the 'ENL MSDL x' command. • • If downloading of the MSDL Base Code is necessary, it will be attempted in response to the enable command. If no manual intervention is taken, the Meridian 1 will again attempt recovery beginning at midnight.	
STAT SDI HIGH	Get status of high-speed link port. The response can be either ENL (enabled) or DIS (disabled).	Ink-2
STAT SDI LOW	Get status of low-speed link port. The response can be either ENL (enabled) or DIS (disabled).	Ink-2
STAT STA x	Get status of STA application. When x (STA ID number) is specified, the STA state, port number, port type, port state, and system description are displayed. If x is not specified, and the application is enabled, the state and port information is given. If x is not specified, and the application is in any state other than enabled, only the STA status is given. No port or system information is displayed. .	sta-19

Possible output follows:

1. Application state and Target state:
ENABLED, MANUAL DISABLE, SYSTEM DISABLE,
AWAIT DISABLE, AWAIT APPL ENABLE, AWT CONF
DOWNLOAD
2. Port type: ADM, SYS, TTY
3. Port state:
NO SDI/STA, DISABLED, ENABLED, TESTING,
KEYBOARD TST, AWAIT VT-200, DTR DOWN,
AUTOBAUDING, AWT AUTOBAUD, ABD SCANNING,
DEFAULT ABD, NO MODEM, IN SESSION, AWAIT
ENABLE

System description is entered as part of the port configuration. For the additional port used to shadow the STA application, the system description is SHADOW TTY.

STAT VMBA <vsid>

vmba-19

Get the status for the Voice Mailbox Administration application. Enter the command in the following format:

STAT VMBA <vsid> <NNNN>

Where:

- vsid = the VAS ID where the VMBA is configured
- NNNN = VMBA audit or upload function. You may enter either AUDT or UPLD, where:
 - AUDT = mailbox database audit, or
 - UPLD = mailbox database upload

AUDT and UPLD are optional entries. The VAS ID must be entered. The status output is shown below:

STAT VMBA <vsid>

- VMBA <ACTIVE or INACTIVE>
- AUDIT <ACTIVE or INACTIVE>
- UPLOAD <ACTIVE or INACTIVE>

STAT VMBA <vsid> AUDT

- AUDIT INACTIVE, or AUDIT ACTIVE

Where:

- n AUDITED
- n MISMATCHES FOUND/CORRECTED
- n ERRORS

STAT VMBA <vsid> UPLD

- UPLOAD INACTIVE, or UPLOAD ACTIVE

Where:

- n UPLOADED
- n DELETED
- n ERRORS

STAT VMBA <vsid> AUDT

vmba-19

Get the status for the Voice Mailbox Database audit. Enter the command in the following format.

STAT VMBA <vsid> AUDT

The status output is shown below:

STAT VMBA <vsid> AUDT

- AUDIT INACTIVE, or AUDIT ACTIVE

Where:

- n AUDITED
- n MISMATCHES FOUND/CORRECTED
- n ERRORS

STAT VMBA <vsid> UPLD

vmba-19

Get the status for the Voice Mailbox Database upload. Enter the command in the following format.

STAT VMBA <vsid> UPLD

The status output is shown below:

STAT VMBA <vsid> UPLD

UPLOAD INACTIVE, or UPLOAD ACTIVE

Where:

- n UPLOADED
- n DELETED
- n ERRORS

SWCH AML x y

Switch active (x) and standby (y) AML. This is AML switchover, where x is the active AML switching to standby and y is the standby AML to become active.

msdl-18

SWCH CMS x y	Switch active (x) and standby (y) CSL. This is CSL switchover, where x is the active CSL switching to standby and y is the standby CSL to become active. Use SWCH AML x y in X11 Release 18 and later.	csl-8
UPLD AML x TBL y	Upload parameter table 1 to 4 from AML x (MSDL only). The MSDL AML maintenance error log table, is uploaded from the MSDL card and is displayed on the TTY screen. The parameter tables are: • TBL1 = AML maintenance error log table • TBL2 = AML downloaded parameter table • TBL3 = AML protocol error log table • TBL4 = AML traffic table MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. Action: MSDL AML table is uploaded and is displayed on the TTY screen. This command is not available for the ESDI card.	msdl-18
